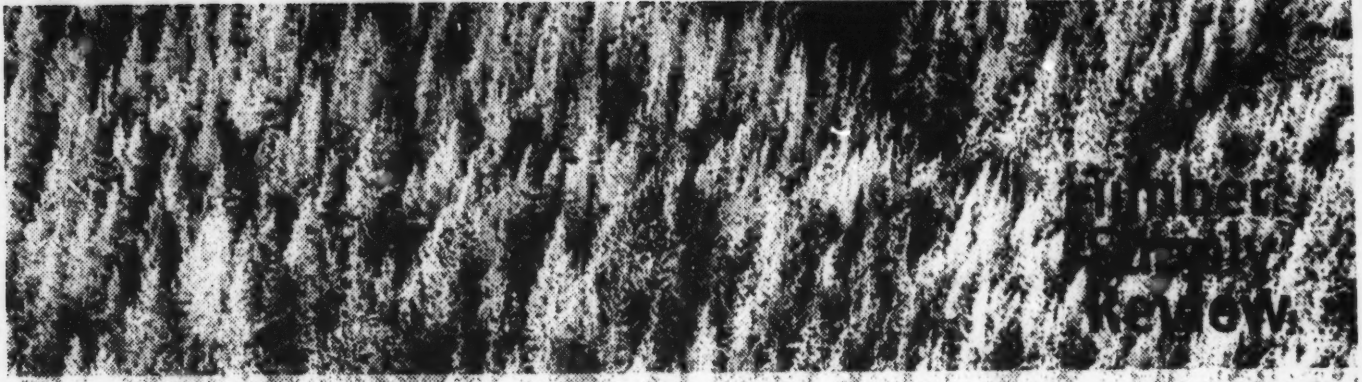
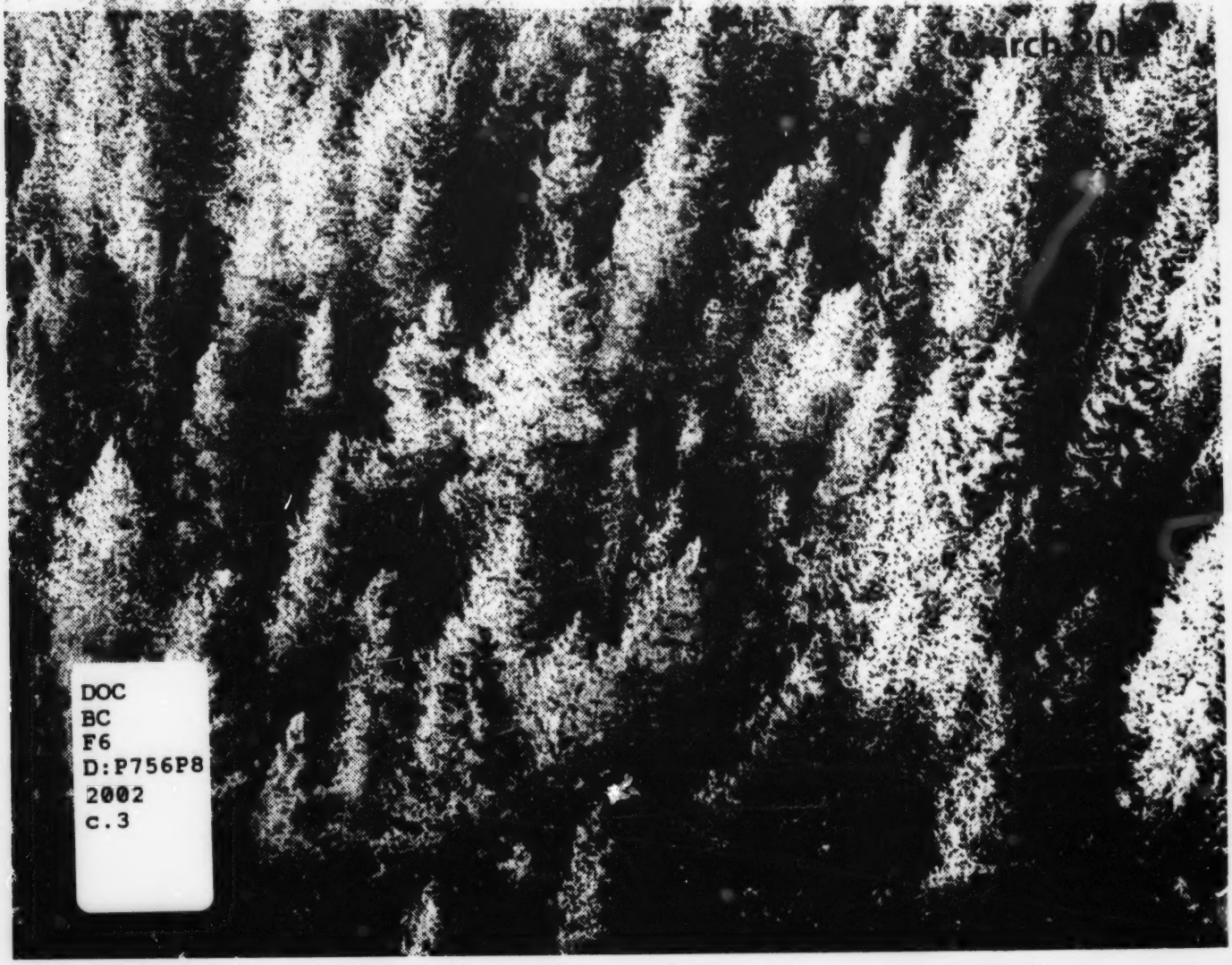


Timber Supply Review

Prince George Timber Supply Area

Public Discussion Paper

Information about a proposed temporary allow[illegible]e annual cut increase due to mountain pine beetles



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* AAC– the rate of timber harvest permitted each year from a specified area.

Mountain pine beetle*

The mountain pine beetle (MPB), Dendroctonus ponderosae Hopkins (Coleoptera: Scolytidae), is the most damaging insect that attacks lodgepole pine in western Canada. The insect is a bark beetle, a small, cylindrical insect that attacks and kills mature trees by boring through the bark and mining the phloem—the layer between the bark and wood of a tree.

The beetles also carry a fungus (blue stain) that causes dehydration and inhibits a tree's natural defences against beetle attacks.

Foreword by Chief Forester

As Chief Forester, I must make an AAC determination for the Prince George Timber Supply Area (TSA) as required under Section 8 of the *Forest Act*. As a normal part of the ongoing provincial review, the *Prince George Timber Supply Analysis Report* was released in September 2001.

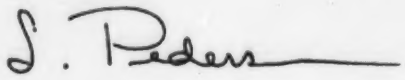
Recently, I reviewed this analysis in order to determine the AAC. Based on my review conducted thus far, I feel obligated to publicly report on my initial observations. I have concluded that some of the general management assumptions in the original analysis should be revised or updated. Of particular concern is that the analysis was conducted prior to the compilation of the new mountain pine beetle (MPB) survey information for 2001, which is now being reported out. As well, the analysis reported that the ongoing MPB epidemic could be managed within the current AAC.

Having reviewed all of the available information, I believe there is cause to consider increasing the AAC in order to intensify ongoing beetle management efforts in the Vanderhoof area, where the MPB population continues to dramatically increase. Accordingly, the additional assessment of this situation, and the information contained in this report compares the implications of maintaining the AAC to the implications of increasing the AAC in order to intensify the management of the epidemic and to reduce projected losses.

This information is new, and the idea of possibly increasing the AAC in response to the epidemic was not put before the public when the TSR analysis was released. In the interests of openness and transparency, I feel it is necessary to release this new information, and to solicit public review and comment to help inform my AAC determination

The information in this document is intended to illustrate the short- and long-term implications for the TSA that arise from a number of different harvest levels and assumptions about the ongoing beetle epidemic.

I expect to finalize the AAC determination very soon after I have reviewed the public input. Given the urgency associated with this situation the public review period is being restricted to 30 days.



Executive summary

The B.C. Forest Service has just completed a new assessment of the timber supply that has been attacked, or is at risk of attack by mountain pine beetles in the Prince George TSA. In January 2002, reports of the infestation from this past summer and fall indicate that the rate of spread has exceeded previous projections. As a result significant amounts of timber could be lost. Given this new information, there is an urgent need to examine the associated social, economic, environmental and forest management concerns.

Harvesting of currently infested stands is the most proactive approach that is available to control the MPB epidemic. If harvesting is not increased then much of the already, or soon-to-be-damaged timber, will not be suitable for lumber manufacturing.

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Details of a proposed temporary AAC increase are:

- **Proposed term:** from May 1, 2002 until the next AAC decision in about five years.
- **Proposed increase:** between 1,000,000 cubic metres to 3,000,000 cubic metres per year.

The public is invited to provide written comments regarding any information contained in this document for the chief forester to consider when reaching his decision. Public comments will be accepted until 4:30 p.m. on April 2, 2002.

See last section below for details about submitting written comments.

Description of the timber supply area

The Prince George TSA is comprised of the Fort St. James, Prince George and Vanderhoof forest districts. The TSA is situated in the north-central interior of the province and covers approximately 7.5 million hectares, of which 3.4 million hectares are considered available for timber harvesting under current forest management practices.

The City of Prince George is the largest community in the TSA. Others include Vanderhoof, Fort St. James, Hixon, Fraser Lake, Fort Fraser, Strathnaver, Giscome, Upper Fraser and Bear Lake. Several First Nations communities are located throughout the area.

As shown in the accompanying map, a substantial area is covered by the mountain pine beetle epidemic.

In the Prince George TSA, almost 30 per cent of the productive Crown-owned forest land is not available for timber harvesting and provides for many environmental values. Forested area both inside and outside the timber harvesting land base helps maintain critical forest habitats for many wildlife species.

There are three land and resource management planning processes that cover the TSA. Land-use planning decisions that have received final approval from government have been reflected in the new assessment of timber supply.

The forest industry in the Prince George TSA is an important source of employment and income for local residents. Other important sources include the public and tourism sectors.

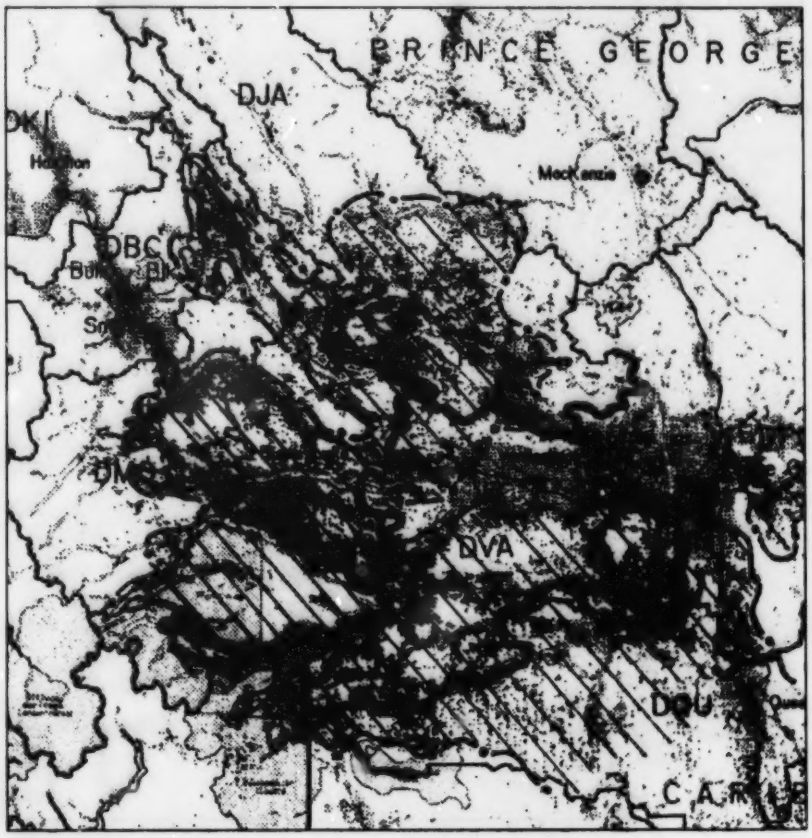
DJA=Fort St. James Forest District

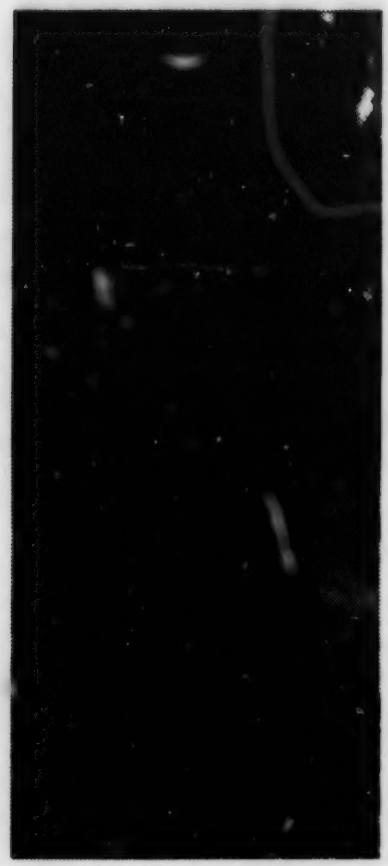
DLA=Lakes TSA

DVA=Vanderhoof Forest District

DQU=Quesnel TSA

approximate area of mountain pine beetle infestation





Chief Forester's responsibilities

In accordance with the Forest Act, section 8—and under normal circumstances—the chief forester reviews and determines a new AAC for each of the 37 TSAs and 34 tree farm licences (TFLs) in the province at least once every five years. The chief forester's determination is an independent, professional judgement based on the best available information.

The current AAC for the Prince George TSA is set at 9,363,661 cubic metres, effective February 1, 1996. In September 2001, in preparation for the five-year review, the *Prince George Timber Supply Area Analysis Report* and *Public Discussion Paper* were published. At that time, results of last summer's beetle epidemic were not known, therefore the analysis report and discussion paper suggested that the epidemic could be managed within the current harvest levels.

However, in January 2002, entomologists and other specialists had gathered new survey data which was not available at the time of the original analysis. The new data indicates that the epidemic was significantly more widespread and damaging than originally projected. Given this recent information, prior to determining the new AAC the chief forester has requested more analysis of the epidemic, including social, economic and environment considerations.

This discussion paper reports on the information recently gathered.

Assessment of the mountain pine beetle epidemic

Mountain pine beetle infestations are natural events in B.C. However, since 1995 the MPB infestation has grown to epidemic levels in central B.C. The last major infestation was in the Chilcotin during the 1980's, which covered approximately 400,000 hectares. It resulted in the continual harvesting of beetle-killed trees as merchantable sawlogs and pulp (chip) fibre for over 20 years. The Prince George TSA has a wetter climate and biological decay is predicted to occur faster.

The area infested by MPB has been increasing within and adjacent to the TSA over the past eight years. Most of the mature (over 80 years) lodgepole pine stands in the TSA are now threatened by the MPB.

Since 1998, the infestation has been spreading at an escalating rate. Since 2000, the total area has almost doubled in the Vanderhoof forest district. In 2001, survey results show that the infestation covered an additional 78,000 hectares, bringing the total to about 124,600 hectares in the Vanderhoof district. As well in 2001, in the Fort St. James district the MPB infestation covered an additional 89,000 hectares, and in the Prince George district, it covered an additional 10,000 hectares.

Unless there is a severe winter, with temperatures colder than –40 C for more than several days, the current epidemic will continue to spread.

The infestation is predicted to continue to spread from southwest to northeast in the

TSA. Given current rates of spread, staff estimate that the affected stands on the timber harvesting land base* (pine trees older than 80 years) could be as high as 385,000 hectares within four to six years. The projected volume of timber impacted in the TSA could be as high as 100 million cubic metres, unless slowed by control measures or significantly affected by a severe and cold winter.

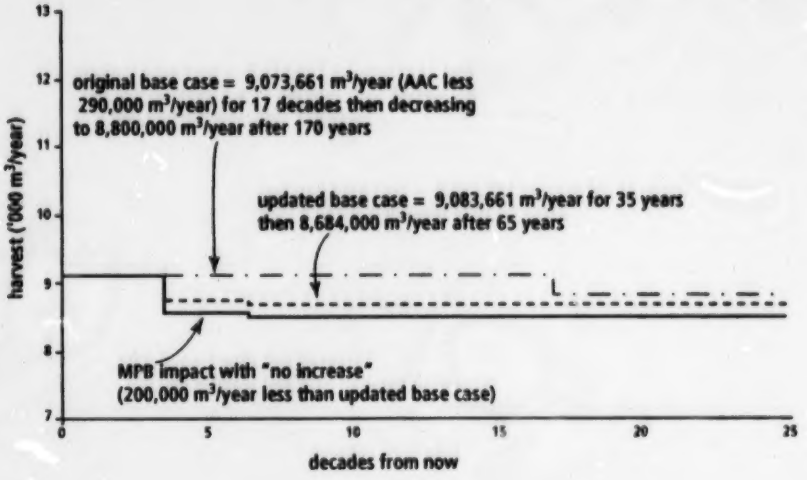


Figure 1. Updated forecasts for the Prince George TSA, 2002.

Timber supply forecasts

This section focuses on the potential impact of the MPB infestation on the timber supply for the Prince George TSA. For a complete description of the Prince George timber supply, see the September 2001, *Prince George Timber Supply Analysis Report*.

For the new timber supply assessment, an updated base case harvest forecast was developed that uses the most recent information of current forest management, the land available for timber and timber yields.

The new timber supply assessment incorporates recent information from: the Prince George forest district vegetation resource inventory audit; identified wildlife management strategy; caribou habitat strategy; the use of improved seedlings; shortened regeneration delay period, and from improved information regarding the natural disturbance regime in the forested area outside of the timber harvesting land base.

As Figure 1 shows, the original base case forecast of 9,073,661 cubic metres per year could be maintained for 170 years, and then declined to a steady long-term harvest level of 8,800,000 cubic metres per year (labelled "original base case"). Based on the new assessment, a harvest level of 9,083,661 cubic metres per year is projected to be maintained for 35 years, and reaches a steady long-term harvest level of 8,684,000 cubic metres after 65 years (labelled "updated base case").

Figure 1 also shows the timber supply impact if the infestation is left unchecked. If increased control measures are not implemented, then the harvest level (labelled "no increase") will decline by 200,000 cubic metres per year after 35 years, compared to the updated base case. This largely results from uncontrolled spread of the epidemic, after which the beetle-killed stands slowly regenerate to an unmanaged state, as opposed to prompt reforestation and forest management following harvest.

Within the Prince George and Fort St. James forest districts, the MPB infestation is being managed within their respective harvest levels. However, this may not be possible in the Vanderhoof forest district. The new timber supply assessment examines the impact of the infestation on timber supply in the Vanderhoof forest district.

* **Timber harvesting land base** – Crown forest land within the timber supply area where timber harvesting is considered both acceptable and economically feasible.

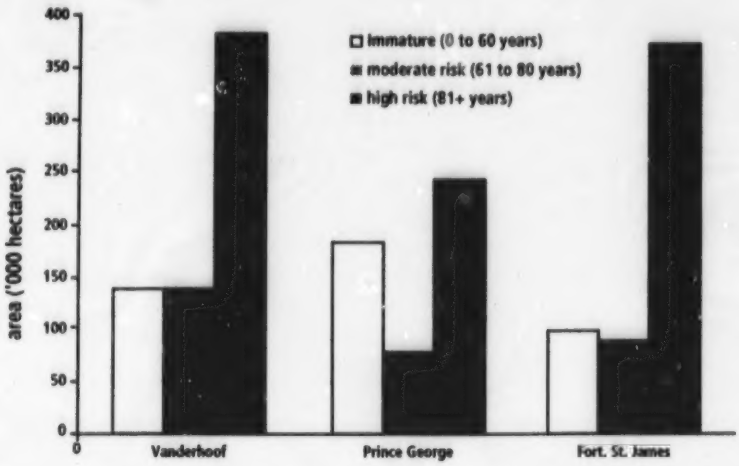


Figure 2. Pine stands at risk from the MPB infestation—Prince George TSA, 2002.

Due to the MPB epidemic, the potential area and volume impacted now and over the next five years was assessed by examining a number of possible outcomes. At the current average annual rate of spread, the MPB could infest all the susceptible lodgepole pine stands within four to seven years. If control harvesting and aggressive treatments are fully implemented, it is possible that the rate of spread could be reduced.

By the end 2001, the mountain pine beetle had infested about 124,600 hectares in the Vanderhoof forest district. If left unchecked, or not affected by cold and severe weather in the Vanderhoof district, the total volume of wood that could be impacted by MPB is estimated to be about 72.7 million cubic metres.

Figure 2 shows the amount of lodgepole pine on the timber harvesting land base within the Prince George TSA that is at risk or susceptible to the MPB infestation. A significant amount of the Vanderhoof forest district is covered by lodgepole pine stands older than 81 years. These older pine stands have the highest risk of being infested. As the infestation intensifies, younger stands will also become susceptible to the infestation.

If significant changes are made immediately to address beetle populations, including the continued aggressive approach of harvesting infested stands, the BCFS believes the situation may be brought to a more manageable level within the next five years.

A number of forecasts examine the timber supply implications of the infestation. These forecasts assume all the same forest cover requirements are applied (i.e., landscape-level biodiversity, wildlife habitat, visual quality and adjacency requirements) as in the base case. In practice, if the MPB epidemic continues these requirements may be affected. The higher-level forecasts also assume that almost all of the current harvesting in the Vanderhoof district is directed at harvesting green-attacked trees over the first five-year period.

The harvest level may need to be increased by up to 3.0 million cubic metres per year to provide an opportunity to proactively manage the infestation. Figure 3 shows the timber supply impacts of the mountain pine beetle epidemic, given higher harvest levels.

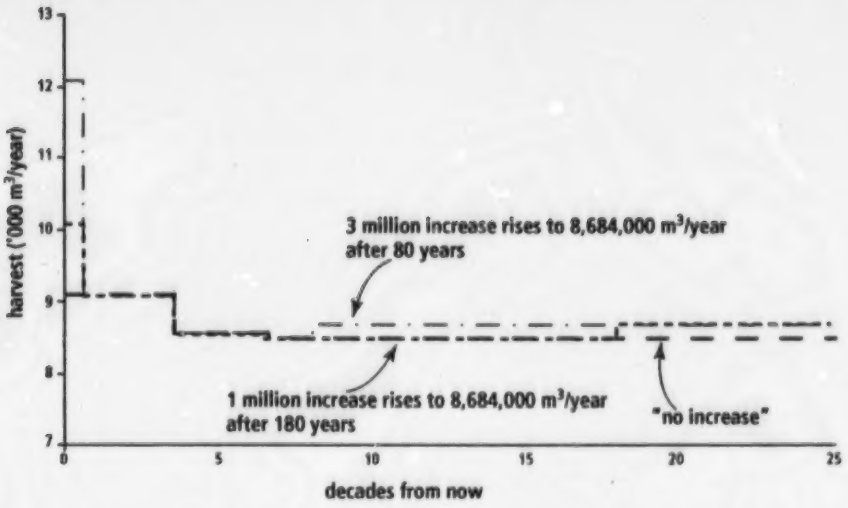


Figure 3. Forecasts showing higher harvest levels—Prince George TSA, 2002.

If higher harvest levels are implemented for beetle-infested timber, then timber supply gains are possible. The harvesting of green-attacked trees will slow the advance of the beetle and allow for planting and management of stands, which will improve growth rates. With a short-term increase of 1.0 million cubic metres per year, the epidemic will not be significantly slowed, however, regeneration will be improved and harvest levels will return to the levels shown in the updated base case in 180 years.

A short-term increase of 3.0 million cubic metres per year is expected to slow the spread of the epidemic as well as provide regeneration benefits, and subsequently return the harvest level projection to levels shown in the updated base case in 80 years. Both higher-level forecasts assume that the current 2.0 million cubic metres per year in the Vanderhoof district is already directed at harvesting infested pine.

In summary, the timber supply assessment shows that the harvest level could be increased in the short term without causing future reductions in timber supply. Also, the forecasts indicate that compared to the "no increase" forecast, a higher harvest level now could increase the long-term level.

Implications of a proposed AAC increase

Environmental Implications

Prior to extensive fire suppression and timber harvesting, B.C.'s central interior forests naturally underwent large-scale, stand-replacing events brought on by wildfire and insect outbreaks. Consequently, forests in the Prince George TSA are dominated by a high proportion of older lodgepole pine trees.

The epidemic beetle population will affect the structure of the TSA's forests by killing large numbers of mature pine trees, and consequently impacting the supply of various kinds of natural habitats. The epidemic will affect the older habitats, either by insect attack followed by eventual blowdown or wildfire, or by harvesting to control the rate of spread or to salvage the attacked timber.

These older habitats are being fundamentally altered from their current state by the beetles. Implementing the proposed higher harvest rate for up to five years would result in the conversion of older lodgepole pine forests to younger and more open forms of habitat. However, recent trends indicate that even with the additional harvest, many

[1] Ministry of Forests, 2001, Prince George Timber Supply Area Analysis Report. Victoria: Province of B.C.

[2] Assumes a 20/80 pulplog-sawlog split.

live and dead stands unaltered by harvesting will remain on the landscape, and very many more will remain in parks.

To date, harvesting efforts targeted at the MPB have focused along the edge of the outbreak. The application of single-tree removal or small patch treatments (less than five hectares) are aimed at removing the infested trees while preserving some of the current diversity of habitats. However, associated blowdown and consequent loss of habitat may occur, and increased road access may affect some habitats, at least temporarily until road deactivation.

Without harvest treatments there remains a tangle of dead trees that eventually present obstacles and a wildfire hazard for wildlife. On the other hand, harvesting could reduce denning habitat for some small prey species that help to support other, larger species.

Overall, the impact of the infestation on the ecology of the forest is dependent on the amount of mortality, which in turn depends on the intensity of the infestation and on the proportion of susceptible trees in each stand. Likewise, the impact of increased harvesting will depend on the evolving nature and extent of the infestation and on the applied silvicultural systems.

Economic Implications

Given the dependence of the communities in the Prince George TSA on the forest industry, and the preponderance of lodgepole pine, the current MPB epidemic represents a serious threat to the medium- and long-term economic viability of Prince George and area.

As reported in 2000, there are about 19 lumber mills, seven other solid-wood mills, three pulp mills and one paper mill in the TSA. During 1998 to 2000, these mills annually processed about 10.1 million cubic metres of timber and 2.2 million bone-dry units of chips.[1] The majority of the timber supply comes from the Prince George TSA, TFL 30, TFL 42, which has a total AAC of about 9.5 million cubic metres. Other sources of timber supply include nearby private lands, woodlots, adjacent TSAs and TFLs.

As shown in Table 2 below, the annual milling capacity within the Prince George TSA is estimated to be about 11.4 million cubic.

A timber supply increase of 1.0 to 3.0 million cubic metres per year would increase the sawlog supply by about 0.8 to 2.4 million cubic metres.[2] At a full 2-shift capacity, it is projected that the solid wood

Table 2: Regional solid wood mill[1] capacity and volumes processed, average 1998-2000.

	Mill capacity[2] (million cubic metres)	Volume processed (million cubic metres)	Input/ capacity ratio (%)	Excess solid wood capacity (million cubic metres)
Prince George TSA	11.4	10.1	88.6	1.3
Central Region[3]	31.0	28.4	91.6	2.6

[1] Solid wood mills include all lumber mills, veneer and panel mills and chip mills.

[2] Capacity is in cubic metres of input and is based on 2-shifts per day and 480 shifts per year. Source: Economics and Trade Branch, Ministry of Forests.

[3] Includes the Prince George, Fort. St. James, Vanderhoof, Mackenzie, Robson Valley, and Dawson Creek, Morice, and Lakes forest districts, and the Cariboo Forest Region.

mills in the Central Region could process an additional 2.6 million cubic metres. However, with more shifts it is possible that the existing mills could process more volume.

Given the existing log size requirements of some mills, the additional lodgepole pine timber may not be proportionally processed by all the existing mills in the TSA.

Market Implications

North American housing, repair and remodelling markets remain strong, despite the recent North American economic slowdown. In 2001, the number of US housing starts was reported to be 1.6 million, which is above the 10-year annual average of 1.43 million (Rogers, 2001)[3].

A detailed report by RISI[4] shows that housing starts may decline to 1.58 million in the first quarter of 2002, but will reach 1.7 million by the end of 2002. This is projected to improve to 1.74 in 2004. RISI forecasts that industrial and non-residential construction will increase during the 2003-2005.

A higher level of harvesting in the Prince George TSA could commence as early as fall 2002 and last for several years. This would coincide with projected stronger housing starts, repair and remodeling in the US and Canada, although price increases are expected to be modest.

Regional and Provincial Implications

In 2001, the province had a 16% share of total U.S. lumber consumption, which is expected to remain constant through 2006 (RISI).

The AACs have been increased in the Quesnel and Lakes TSAs due to the MPB infestation. This has added 2.4 million cubic metres to the timber supply of the Central Region. If the AAC for the Prince George TSA is increased by 1.0 to 3.0 million cubic metre per year, this could increase the total provincial supply by about 3.4 to 5.4 million cubic metres per year. This additional timber supply could then increase the annual sawlog supply between 2.7 to 4.3 million cubic metres.

The proposed AAC increase could be timed with an increase in U.S. demand, but North American-wide excess milling capacity, lower prices, product quality, and trade issues may limit the ability of B.C. to successfully integrate the additional supply into export markets.

Community Implications

If the current AAC is increased by 1.0 million cubic metres per year, this could support an estimated total of 644 person-years of direct employment in the harvesting, silviculture and lumber sector. If the AAC is increased by 3.0 million cubic metres per year, this could support an estimated total of 1,932 person-years of direct employment.

Forest Management Strategy

Last year, the province developed a bark beetle strategy, which includes a regulation under the Forest Practice Code. Under this regulation, much of central B.C. has been designated an Emergency Bark Beetle Management Unit.

[3] R&S Rogers Consulting Inc. 2001. West Central B.C. Mountain Pine Beetle Strategic Business Recommendations Report. Prepared for the Ministry of Forests, Victoria B.C.

[4] RISI North American Lumber Forecast. January 1002, 2:1. Bedford, MA: Resource Information Systems Inc.

For the Prince George TSA, the designation covers: all of the Vanderhoof; the southern portion of the Fort St. James, and the southwestern portion of the Prince George forest district. The designation includes three categories: aggressive, sanitation and salvage treatments. The strategy states that all possible forest health treatments, as well as timber harvesting are to be applied to control the infestation.

The proposal to increase timber harvesting in severely infested areas in the Prince George TSA is similar to the approach initiated last year in the adjacent Quesnel and Lakes TSAs, where harvesting has been temporarily increased by 1.0 million cubic metres and 1.5 million cubic metres per year, respectively.

Within the Prince George and Fort St. James forest districts, the current strategy is based on an aggressive treatment of infested areas and is generally being managed within their respective harvest levels. As well as the MPB infestation, the spruce bark beetle has been attacking spruce dominated stands in the TSA. The districts are currently managing these infestations within current harvest levels. However, last summer in the Vanderhoof forest district the size of the attacked MPB area doubled. The current harvest level may not be enough to facilitate adequate control measures. Therefore, additional harvesting of the infestation is being proposed.

If the harvest level is increased, the Vanderhoof district staff indicate that a priority will be placed on harvesting in the aggressive and sanitation categories, where green-infested trees will be removed. To facilitate the removal of green-infested trees, there may be some incidental harvesting of non-infested trees. If the harvest level is increased, harvesting operations could be underway this fall.

Your input is needed

The allowable annual cut is an important determination requiring well-informed and thoughtful public input. Please review the information contained in this document and provide any additional information you feel is important and relevant to this decision. Forest Service staff in the Prince George regional office are available to discuss questions or concerns that would help you prepare your input.

You may identify yourself on your response if you wish. If you do, you are reminded that responses will be subject to the *Freedom of Information and Protection of Privacy Act* and may be made public. If the responses are requested, personal identifiers will be removed before the responses are released.

Please mail your comments to the chief forester at the address below. **Your comments will be accepted until 4:30 p.m. on April 2, 2002.**

A summary of public comments will be available along with the chief forester's allowable annual cut determination when it is announced.

Mail or fax your comments to:

Chief Forester
B.C. Forest Service
P.O. Box 9512
Victoria, B.C.
V8W 9C3

or Fax to (250) 953-3838

Prince George TSR Discussion Paper Response Form

The Forest Act requires the chief forester to consider the following factors to determine the allowable annual cut for timber supply areas and tree farm licence areas in the province, as follows:

- the rate of timber production that can be sustained from the area;
- the short- and long-term implications to the province of alternative rates of timber harvesting from the area;
- the nature, production capabilities and timber requirements of established and proposed timber processing facilities;
- the economic and social objectives of the Crown for the area, the general region, and the province, as expressed by the minister of forests, and;
- abnormal insect or disease infestations and major salvage programs planned for the area.

We welcome your review to ensure the best available information is considered for the Prince George timber supply area. Please provide your comments on this form, or in another format. **Input will be accepted until April 2, 2002.**

A. Economic and social objectives

Please use the space below to provide your comments regarding the economic and social information contained in this report or other information that you believe should be considered in determining the AAC for the Prince George timber supply area.

B. Timber supply and management assumptions

Please use the space below to provide your comments regarding the timber supply and management assumptions contained in this report or other information that you believe should be considered in the determining the AAC for the Prince George timber supply area.

Name (optional): _____

Address (optional): _____

Mail or fax your comments to:

Chief Forester
B.C. Forest ServiceP.O. Box 9512
Victoria, B.C.
V8W 9C3

or fax to (250) 953-3838